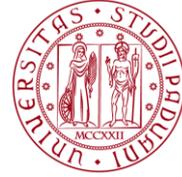




DIPARTIMENTO  
DI GEOSCIENZE



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Arduino Lecture  
**Groundwater and Earthquakes: where, when, how  
monitoring before and aftershocks**

Martedì, 14 dicembre 2017 – ore 16:30

Aula Arduino

Relatore: **Prof. Marco Petitta**  
*Sapienza Università di Roma*

**Abstract:**

Seismic precursors are an as yet unattained frontier in earthquake studies. With the aim of making a step towards this frontier, a groundwater monitoring has been performed including hydrogeochemical dataset, associated with the 2016 Amatrice- Norcia seismic sequence (central Apennines, Italy), developed from August 24th, with an Mw 6.0 event, and culminating on October 30th, with an Mw 6.5 mainshock. The seismic sequence occurred during a seasonal depletion of hydrostructures, and the four strongest earthquakes ( $M_w \geq 5.5$ ) generated an abrupt uplift of the water level, recorded up to 100 km away from the mainshock area. Monitoring a set of selected springs in the central Apennines, a few hydrogeochemical anomalies were observed months before the onset of the seismic swarm, interpreted as reliable seismic precursors for a dilational tectonic setting.

**Proponente:** Paolo Fabbri